



THE  
NAVAJO  
NATION

CP-6 Threatened & Endangered Species

SDMS DOCID # 1148215

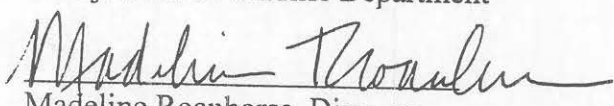
KELSEY A. BEGAYE  
PRESIDENT

October 13, 2000

TAYLOR MCKENZIE, M.D.  
VICE PRESIDENT

MEMORANDUM

TO: Gloria M. Tom, Director  
Navajo Fish & Wildlife Department

FROM:   
Madeline Roanhorse, Director  
Navajo AML Reclamation / UMTRA Department

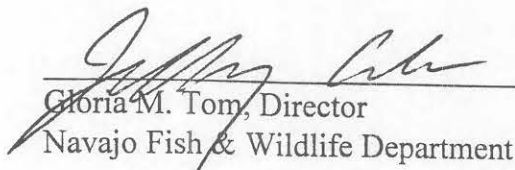
SUBJECT: Cameron 6 AML Reclamation Project

OCT 18 2000

Navajo Abandoned Mine Lands Reclamation Program (Navajo AML) requests your concurrence on the recommendation of "no effect" for the Navajo and Federally listed threatened and endangered plant and animal species for the Cameron 6 AML Reclamation Project. No negative impacts are foreseen to the listed threatened or endangered plant and animal species (see attached Cameron 6 AML Project Biological Evaluation).

Please sign this concurrence by November 13, 2000 so that the reclamation process may proceed. Thank you for your prompt attention. If there are any questions, you can contact Darryl Martinez, Biologist, at (520) 871-6544.

CONCURRENCE

  
Gloria M. Tom, Director  
Navajo Fish & Wildlife Department

cc: Darryl Martinez, Biologist  
Melvin Yazzie, Reclamation Specialist III  
Ray Tsingine, Tuba City AML Program Manager  
Cameron 6 File

Attachments



# THE NAVAJO NATION

SEP 18 2000

KELSEY A. BEGAYE  
PRESIDENT

TAYLOR MCKENZIE, M.D.  
VICE PRESIDENT

September 15, 2000

Darryl Martinez, Biologist  
Navajo AML Reclamation Program  
P.O. Box 1875  
Window Rock, Arizona 86515  
(520) 871-6982

**SUBJECT: Abandoned Mine Land Reclamation; Cameron 6 AML Project.**

Mr. Martinez;

The following information on species of concern<sup>1</sup> is provided in response to your 14 August 2000 request concerning the subject project, which consists of the Cameron 6 Abandoned Mine Reclamation Project by Navajo AML Reclamation Program.

At this time, the Navajo Fish and Wildlife Department (NFWD) has no record of species of concern occurring on the project sites.

Each 7.5-minute quadrangle containing project boundaries is addressed separately below. These species lists are quadrangle-specific rather than project-specific. Potential for species has been determined primarily on quadrangle-wide coarse habitat characteristics and species range information. Your project biologist should determine habitat suitability at the project sites.

A total of 23 species are identified in the quadrangle-specific lists. They are:

1. Amsonia peeblesii (Peebles' blue-star).
2. Amsonia tomentosa var. stenophylla (narrowleaf blue star).
3. Antilocapra americana (pronghorn); NESL group 3.
4. Aquila chrysaetos (Golden Eagle); NESL group 3; MBTA; EPA.
5. Astragalus sophoroides (Tuba City milkvetch); NESL group 4.
6. Buteo regalis (Ferruginous Hawk); NESL group 3; MBTA.
7. Catostomus discobolus (bluehead sucker); NESL group 4.
8. Catostomus latipinnis (flannelmouth sucker).
9. Cinclus mexicanus (American Dipper); NESL group 3; MBTA.

---

<sup>1</sup>"Species of concern" include protected, candidate, and other rare or otherwise sensitive species, including certain native species and species of economic or cultural significance. For each species, the following tribal and federal statuses are indicated: Navajo Endangered Species List (NESL), federal Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), and Eagle Protection Act (EPA). No legal protection is afforded species with only ESA candidate or NESL group 4 status; please be aware of these species during surveys and inform the NFWD of observations. Documentation that these species are more numerous or widespread than currently known, and addressing these species in project planning and management is important for conservation and may contribute to ensuring they will not be uplisted in the future. Species without ESA or NESL legal protection (e.g., NESL group 4 species) are only included in responses on an irregular basis and may not be included in this response. Please refer to the NESL for a list of group 4 species; contact me if you need a copy.

10. Cymopterus megacephalus (bighead water parsnip).
11. Empidonax traillii extimus (Southwestern Willow Flycatcher); NESL group 2; ESA endangered; MBTA.
12. Errazurizia rotundata (round dunebroom); NESL group 4.
13. Falco peregrinus (Peregrine Falcon); NESL group 4; MBTA.
14. Gila cypha (humpback chub); NESL group 2; ESA endangered.
15. Haliaeetus leucocephalus (Bald Eagle); ESA threatened; MBTA; EPA.
16. Lampropeltis triangulum (milk snake); NESL group 4.
17. Mustela nigripes (black-footed ferret); NESL group 2; ESA endangered. Potential for the black-footed ferret should be evaluated if prairie-dog towns of sufficient size (per NFWD guidelines) occur in the project area.
18. Perognathus amplus ammodytes (Navajo pocket mouse).
19. Pediocactus peeblesianus var. fickeiseniae (Fickeisen plains cactus); NESL group 3; ESA candidate.
20. Phacelia welshii (Welsh phacelia); NESL group 4.
21. Rana pipiens (northern leopard frog); NESL group 2.
22. Rhinichthys osculus (speckled dace).
23. Xyrauchen texanus (razorback sucker); NESL group 2; ESA endangered.

#### CAMERON NORTH, AZ QUADRANGLE

Project Sites: NA-114d  
 NA-114a  
 NA-0116

At this time, the Navajo Fish and Wildlife Department (NFWD) has no record of species of concern occurring on the project sites.

Species of concern with potential to occur on the 7.5-minute quadrangle include:

1. Antilocapra americana
2. Aquila chrysaetos
3. Buteo regalis
4. Cinclus mexicanus
5. Empidonax traillii extimus
6. Falco peregrinus
7. Haliaeetus leucocephalus
8. Mustela nigripes
9. Rana pipiens
10. Catostomus latipinnis
11. Cinclus mexicanus
12. Gila cypha
13. Perognathus amplus ammodytes
14. Xyrauchen texanus
15. Amsonia peeblesii

## CAMERSON SOUTH, AZ QUADRANGLE

Project Site: NA-0164

At this time, the Navajo Fish and Wildlife Department (NFWD) has no record of species of concern occurring on the project site.

Species of concern known to occur within three miles of the project site include:

1. Astragalus sophoroides

Additional species of concern with potential to occur on the 7.5-minute quadrangle include:

2. Antilocapra americana
3. Aquila chrysaetos
4. Buteo regalis
5. Cinclus mexicanus
6. Empidonax traillii extimus
7. Falco peregrinus
8. Haliaeetus leucocephalus
9. Mustela nigripes
10. Rana pipiens
11. Catostomus discobolus
12. Lempropeltis triangulum
13. Perognathus amplus ammodytes
14. Rhinichthys osculus
15. Amsonia peeblesii
16. Amsonia tomentosa var. stenophylla
17. Cymopterus megacephalus
18. Pediocactus peeblesianus var. fickeiseniae
19. Phacelia welshii

## CAMERON SOUTHEAST, AZ QUADRANGLE

Project Sites: NA-158a  
NA-158b  
NA-0159

At this time, the Navajo Fish and Wildlife Department (NFWD) has no record of species of concern occurring on the project sites.

Species of concern with potential to occur on the 7.5-minute quadrangle include:

1. Antilocapra americana
2. Aquila chrysaetos
3. Buteo regalis
4. Empidonax traillii extimus
5. Falco peregrinus
6. Haliaeetus leucocephalus
7. Mustela nigripes
8. Rana pipiens

9. Catostomus discobolus
10. Astragalus sophoroides
11. Errazurizia rotundata

#### SHADOW MNT. WELL, AZ QUADRANGLE

Project Site: NA-0111

At this time, the Navajo Fish and Wildlife Department (NFWD) has no record of species of concern occurring on the project sites.

Species of concern known to occur within one mile of the project site include:

1. Cymopterus megacephalus

Additional species of concern with potential to occur on the 7.5-minute quadrangle include:

2. Aquila chrysaetos
3. Buteo regalis
4. Empidonax traillii extimus
5. Mustela nigripes
6. Amsonia tomentosa var. stenophylla
7. Astragalus sophoroides
8. Cymopterus megacephalus
9. Errazurizia rotundata

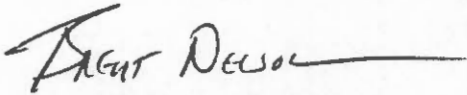
#### ALL QUADRANGLES/ PROJECT SITES:

Biological surveys should be conducted during the appropriate season. Surveyors on the Navajo Nation must be permitted by the Director, NFWD. Contact Jeff Cole at (520) 871-7068 for permitting procedures. Questions pertaining to surveys should be directed to the NFWD Zoologist (David Mikesic) for animals at 871-7638, and Botanist (Daniela Roth) for plants at 871-7639.

Potential impacts to wetlands should also be evaluated. The U.S. Fish & Wildlife Service's National Wetlands Inventory (NWI) maps should be examined to determine whether areas classified as wetlands are located close enough to the project site(s) to be impacted. In cases where the maps are inconclusive (e.g., due to their small scale), field surveys must be completed. For field surveys, wetlands identification and delineation methodology contained in the "Corps of Engineers Wetlands Delineation Manual" (Technical Report Y-87-1) should be used. When wetlands are present, potential impacts must be addressed in an environmental assessment and the Army Corps of Engineers, Phoenix office, must be contacted. NWI maps are available for examination at the NFWD's Natural Heritage Program (NHP) office, or may be purchased through the U.S. Geological Survey (order forms are available through the NHP). The NHP has complete coverage of the Navajo Nation, excluding Utah, at 1:100,000 scale; and coverage at 1:24,000 scale in the southwestern portion of the Navajo Nation.

The information in this report was identified by the NFWD's biologists and computerized database, and is based on current data. It should not be regarded as the final statement on the occurrence of any species, nor should it substitute for on-site surveys. Also, because the NFWD's information is continually updated, any given information response is only wholly appropriate for its respective request.

If you have any questions I may be reached at (520) 871-7603.

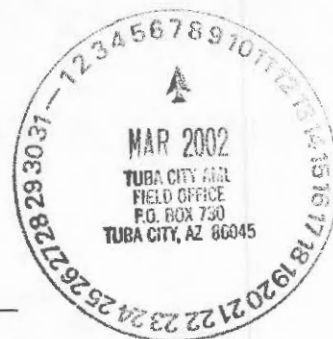
A handwritten signature in black ink, appearing to read "Brent Nelson", followed by a horizontal line.

Brent Nelson, Data Manager  
Natural Heritage Program  
Navajo Fish and Wildlife Department

xc: file/chrono



CULTURAL RESOURCES COMPLIANCE FORM  
HISTORIC PRESERVATION DEPARTMENT  
PO BOX 4950  
WINDOW ROCK, ARIZONA 86515



ROUTING: COPIES TO  
AZ SHPO  
XX REAL PROPERTY MGT/330  
XX NNAD

NNHPD NO. HPD-01-143.1  
OTHER PROJECT NO. \_\_\_\_\_

NNAD-00-213 Add 1

PROJECT TITLE: Addendum 1 to A Cultural Resources Inventory of the NAMLRP Cameron 6 Reclamation Project Near Cameron, Coconino County, Arizona

LEAD AGENCY: OSM

SPONSOR: Navajo Nation Division of Natural Resources, Navajo Abandoned Mines Reclamation Program, PO Box 730, Tuba City, Arizona 86045

PROJECT DESCRIPTION: NAMLRD proposes to reclaim one abandoned mine (Project Area A) considered hazards to public health and safety and the environment. The mine carry a priority 3 classification and as such is deemed an environmental hazard. Reclamation procedures will involve stabilization of portals/pits where necessary, burial of all mining features and waste piles, followed by terracing and revegetation of the land. NAMLRP proposes to obtain clean fill necessary to cover mine waste and mine features from sediment pit/borrow pits located within the mine boundary. AML also proposes to create a borrow pit to obtain clean fill for use in the original Cameron 6 reclamation project (NNAD 00-213) from an existing cattle pond located in Project Area B, south of Cameron, AZ (see figure 5). Ground disturbance with heavy equipment will be intensive and extensive.

LAND STATUS: Tribal Trust  
CHAPTER: Cameron

LOCATION: Unplatted and projected T32N, R9E; and T28N, R9E, Sec 36, Shadow Mountain Well and Cameron South Quads, Coconino County, Arizona G&SRPM&B

PROJECT ARCHAEOLOGIST: Jennifer C. Minor and Ora V. Marek

NAVAJO ANTIQUITIES PERMIT NO.: NTC

DATE INSPECTED: 11/8 and 12/4/01

DATE OF REPORT: 12/01

TOTAL ACREAGE INSPECTED: 40.6

METHOD OF INVESTIGATION: Class III pedestrian inventory with transects spaced 15 m apart.

LIST OF CULTURAL RESOURCES FOUND: (1) Site (AZ-K-60-08), and (2) Isolated occurrences  
LIST OF ELIGIBLE PROPERTIES: None  
LIST OF NON-ELIGIBLE PROPERTIES: (1) Site (AZ-K-60-08) and (2) Isolated occurrences  
LIST OF ARCHAEOLOGICAL RESOURCES: None

EFFECT/CONDITIONS OF COMPLIANCE: No historic properties affected.

In the event of a discovery ["discovery" means any previously unidentified or incorrectly identified cultural resources including but not limited to archaeological deposits, human remains, or locations reportedly associated with Native American religious/traditional beliefs or practices], all operations in the immediate vicinity of the discovery must cease, and the Navajo Nation Historic Preservation Department must be notified at (520) 871-7132.

FORM PREPARED BY: Charles Murphy  
FINALIZED: February 13, 2002

Notification to  
Proceed Recommended: Yes XX No \_\_\_\_\_  
Conditions: Yes \_\_\_\_\_ No XX

Navajo Region Approval: Yes P No \_\_\_\_\_

Alan S. Downer  
Navajo Nation Historic Preservation Officer  
Date 2-27-02  
DEPUTY Regional Director  
Date 2-27-02

Post-It™ brand fax transmittal memo 7671 # of pages >	
To <u>Steve Chischilly</u>	From <u>TC+MLC</u>
Co. _____	Co. _____
Dept. <u>505-786-5188</u>	Phone# <u>928-283-3188</u>

CULTURAL RESOURCES COMPLIANCE FORM  
HISTORIC PRESERVATION DEPARTMENT  
PO BOX 4950  
WINDOW ROCK, ARIZONA 86515



ROUTING: COPIES TO  
AZ SHPO  
XX REAL PROPERTY MGT/330  
XX NNAD

NNHPD NO. HPD-01-143.1  
OTHER PROJECT NO.  
NNAD-00-213 Add 1

PROJECT TITLE: Addendum 1 to A Cultural Resources Inventory of the NAMLRP Cameron 6 Reclamation Project Near Cameron, Coconino County, Arizona

LEAD AGENCY: OSM

SPONSOR: Navajo Nation Division of Natural Resources, Navajo Abandoned Mines Reclamation Program, PO Box 730, Tuba City, Arizona 86045

PROJECT DESCRIPTION: NAMLRD proposes to reclaim one abandoned mine (Project Area A) considered hazards to public health and safety and the environment. The mine carry a priority 3 classification and as such is deemed an environmental hazard. Reclamation procedures will involve stabilization of portals/pits where necessary, burial of all mining features and waste piles, followed by terracing and revegetation of the land. NAMLRP proposes to obtain clean fill necessary to cover mine waste and mine features from sediment pit/borrow pits located within the mine boundary. AML also proposes to create a borrow pit to obtain clean fill for use in the original Cameron 6 reclamation project (NNAD 00-213) from an existing cattle pond located in Project Area B, south of Cameron, AZ (see figure 5). Ground disturbance with heavy equipment will be intensive and extensive.

LAND STATUS: Tribal Trust  
CHAPTER: Cameron

LOCATION: Unplatted and projected T32N, R9E; and T28N, R9E, Sec 36, Shadow Mountain Well and Cameron South Quads, Coconino County, Arizona G&SRPM&B

PROJECT ARCHAEOLOGIST: Jennifer C. Minor and Ora V. Marek

NAVAJO ANTIQUITIES PERMIT NO.: NTC

DATE INSPECTED: 11/8 and 12/4/01

DATE OF REPORT: 12/01

TOTAL ACREAGE INSPECTED: 40.6

METHOD OF INVESTIGATION: Class III pedestrian inventory with transects spaced 15 m apart.

LIST OF CULTURAL RESOURCES FOUND:	(1) Site (AZ-K-60-08), and (2) Isolated occurrences
LIST OF ELIGIBLE PROPERTIES:	None
LIST OF NON-ELIGIBLE PROPERTIES:	(1) Site (AZ-K-60-08) and (2) Isolated occurrences
LIST OF ARCHAEOLOGICAL RESOURCES:	None

EFFECT/CONDITIONS OF COMPLIANCE: No historic properties affected.

In the event of a discovery ["discovery" means any previously unidentified or incorrectly identified cultural resources including but not limited to archaeological deposits, human remains, or locations reportedly associated with Native American religious/traditional beliefs or practices], all operations in the immediate vicinity of the discovery must cease, and the Navajo Nation Historic Preservation Department must be notified at (520) 871-7132.

FORM PREPARED BY: Charles Murphy  
FINALIZED: February 13, 2002

Notification to  
Proceed Recommended:  
Conditions:

Yes XX No       
Yes      No XX

Navajo Region Approval:

Yes    No     

DEPUTY Regional Director

Date

Date



CULTURAL RESOURCES COMPLIANCE FORM  
HISTORIC PRESERVATION DEPARTMENT  
PO BOX 4950  
WINDOW ROCK, ARIZONA 86515



NA-0164 8.0  
NA-0159 .7  
RC NA-0158b 7.3  
A NA-0158a 9.2  
X NA-0116 7.0  
X NA-0114d 3.0  
PRI NA-0114a 2.5  
Cot NA-0114a 2.0  
LE NA-0112 39.7  
SPC  
Tut

GT/330

NNHPD NO. HPD-01-143  
OTHER PROJECT NO.

NNAD-00-213

s Inventory of the NAMLRP Cameron 6 Reclamation Project Near Cameron,

tural Resources, Navajo Abandoned Mines Reclamation Program , PO Box 730,

PRC poses to reclaim eight abandoned mines considered hazards to public health and safety  
and a priority 3 classification and as such are deemed environmental hazards. Using a  
motor le the access roads to all eight mines prior to reclamation and eliminate the roads once  
mine 1 procedures will involve stabilization of portals/pits where necessary, burial of all  
mini by terracing and revegetation of the land. NAMLRP proposes to obtain clean fill  
neces from sediment pit/borrow pits located within each mine boundary. The survey  
area of the access roads include a 90 foot right-of-way. Ground disturbance with heavy equipment will be intensive and extensive.

LAND STATUS: Tribal Trust  
CHAPTER: Cameron

LOCATION: Unplatted and projected T28N, R9E and R10E; T29N, R9E; and T32N, R9E; Shadow Mountain Well, Cameron North, Cameron South, and Cameron SE Quads, Coconino County, Arizona G&SRPM&B

PROJECT ARCHAEOLOGIST: Jennifer C. Minor

NAVAJO ANTIQUITIES PERMIT NO.: NTC

DATE INSPECTED: 6/20 thru 8/9/00

DATE OF REPORT: 2/01

TOTAL ACREAGE INSPECTED: 123.5

METHOD OF INVESTIGATION: Class III pedestrian inventory with transects spaced 15 m apart.

LIST OF CULTURAL RESOURCES FOUND:

(10) Sites (AZ-K-60-07, AZ-N-05-19, 20, 21, and 22, AZ-N-11-13, 15, 16, and 17, and AZ-N-12-17), and (7) Isolated occurrences

LIST OF ELIGIBLE PROPERTIES:

(2) Sites (AZ-N-05-22 and AZ-N-11-17)

LIST OF NON-ELIGIBLE PROPERTIES:

(8) Sites (AZ-K-60-07, AZ-N-05-19, 20, and 21, AZ-N-11-13, 15, and 16, and AZ-N-12-17) and (7) Isolated occurrences

LIST OF ARCHAEOLOGICAL RESOURCES:

(1) Site (AZ-N-11-17)

EFFECT/CONDITIONS OF COMPLIANCE: No historic properties will be affected with the following conditions:

Sites AZ-N-05-17 and AZ-N-11-17:

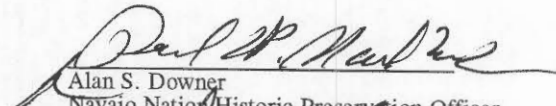
- 1) Sites will be flagged by a qualified archaeologist prior to any construction activities
- 2) No construction activities, including road blading or leveling, will be allowed within 50 feet of site boundaries
- 3) All vehicular traffic will stay within existing dirt roads
- 4) Any construction activities within 50 feet of site boundaries will be monitored by a qualified archaeologist

In the event of a discovery ["discovery" means any previously unidentified or incorrectly identified cultural resources including but not limited to archaeological deposits, human remains, or locations reportedly associated with Native American religious/traditional beliefs or practices], all operations in the immediate vicinity of the discovery must cease, and the Navajo Nation Historic Preservation Department must be notified at (520) 871-7132.

FORM PREPARED BY: Charles Murphy  
FINALIZED: March 30, 2001

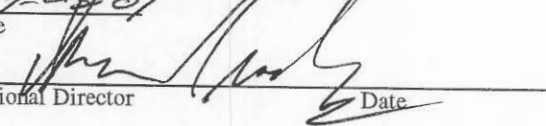
Notification to  
Proceed Recommended:  
Conditions:

Yes XX No       
Yes XX No     

  
Alan S. Downer  
Navajo Nation Historic Preservation Officer  
Date 4-28-01

Navajo Region Approval:

Yes ✓ No     

  
ACTING Regional Director Date                 

LB

## **Biological Evaluation**

### **Cameron AML Reclamation Project 6**

(Sites: NA-0112, NA-0114a, NA-0114d, NA-0116, NA-0158a, NA-0158b, NA0159, and NA-0164)

#### **Project Sponsor:**

Navajo Abandoned Mine Lands Reclamation Program

Contact: Melvin Yazzie

P.O. Box 3605

Shiprock, NM 87420

Phone: (505) 368-1220

#### **Author:**

Darryl Martinez, Biologist

Navajo Abandoned Mine Lands Reclamation Program

P.O. Box 1875

Window Rock, Arizona 86515

Phone: (520) 871-6982

October 2000



## Table of Contents

I.	Location and Description of the Action	p. 3
II.	Description of the Environment	p. 3
III.	Species list and Status	p. 4
IV.	Survey Methodology	p. 4
V.	Survey Results	p. 6
VI.	Impact Assessment	p. 8
VII.	Conclusion	p. 9
VIII.	Certification	p. 9
IX.	Coordination and Consultation	p. 9

Figures 1 through 3: U.S.G.S. 7.5-minute maps of project areas

Figures 4 through 11: Mine site feature drawings

## **I. Location and Description of the Action**

The Navajo Abandoned Mine Lands Reclamation Program (Navajo AML) has received a construction grant from the Office of Surface Mining Reclamation and Enforcement (OSMRE) to reclaim certain abandoned uranium mine lands within the Cameron Chapter. Navajo AML labeled this project as "Cameron 6 AML Project." The project sites are located approximately 7.5 mi. SSE to approximately 14 mi. N of Cameron, Arizona. The Cameron 6 Project includes sites NA-0112, NA-0114a, NA-0114d, NA-0116, NA-0158a, NA-0158b, NA0159, and NA-0164.

Abandoned uranium mines pose a serious health and safety hazard to the people, livestock and wildlife that inhabit and use rangeland located on or near the mines. Different types of mine features occur in these project areas, including: rimstrips, high walls, trenches, and mine waste.

It is the goal of Navajo AML to reclaim these hazardous abandoned uranium mines by backfilling open uranium rimstrips using selective handling of radioactive material, installing drainage diversions, regrading, and top soiling project areas to the extent possible. These methods will consolidate and essentially encapsulate the radioactive waste in the burial pits, therefore minimizing airborne, ground water, and surface water contamination. The Arizona Ecological Services Field Office, U.S. Fish & Wildlife Service concurred with NAMLRP's determination of "no effect" for the humpback chub (*Gila cypha*) in the Little Colorado River on earlier reclamation activities in the immediate area.

## **II. Description of the Environment**

The project sites are located near the northwestern extent of the Painted Desert, which comprises Triassic Period siltstones and mudstones of the Chinle Formation. Within and adjacent to the project sites the primary exposed geologic formation is the Shinarump member of the Chinle Formation. Shinarump member is light gray to yellowish gray sandstone and conglomerate.

The project sites fall within the Upper Sonoran Life Zone, within the Great Basin Desertscrub plant community. Vegetation in the area includes Rubber rabbitbrush (*Chrysothamnus nauseosus*), Broom snakeweed (*Gutierrezia sarothrae*), Four-winged saltbush (*Atriplex canescens*), Mormon tea (*Ephedra spp.*), Soapweed (*Yucca glauca*), and sparse grasses.

The topography around the project sites is relatively flat with sparse vegetation, unless otherwise noted. Elevation of the project areas range between 4360 ft (1329 m) and 4800 ft (1463 m).

### III. Species list and Status

The Navajo Natural Heritage Program (NNHP) compiled a list of species of concern for this project on September 15, 2000. The following species potentially occur on or adjacent to Cameron 6 project areas:

*Amsonia peeblesii* (Peebles blue-star).  
*Amsonia tomentosa* var. *stenophylla* (narrowleaf blue star)  
*Antilocapra americana americana* (Pronghorn); NESL group 3  
*Aquila chrysaetos* (Golden eagle); NESL group 3, MBTA; EPA  
*Astragalus sophoroides* (Tuba City milk-vetch)  
*Buteo regalis* (Ferruginous hawk); NESL group 3; MBTA  
*Catostomus discobolus* (bluehead sucker); NESL group 4  
*Catostomus latipinnis* (flannelmouth sucker); NESL group 4  
*Cinclus mexicanus* (American dipper); NESL group 3; MBTA  
*Cymopterus megacephalus* (Bighead water parsnip)  
*Empidonax traillii extimus* (Southwestern willow flycatcher); NESL group 2; ESA endangered; MBTA  
*Errazurizia rotundata* (Round dunebroom); NESL group 4  
*Falco peregrinus* (Peregrine falcon); NESL group 3; ESA endangered; MBTA  
*Gila cypha* (Humpback chub); NESL group 2; ESA endangered  
*Haliaeetus leucocephalus* (Bald eagle); NESL group 3; ESA threatened; MBTA; EPA  
*Lampropeltis triangulum* (Milk snake); NESL group 4  
*Mustela nigripes* (Black-footed ferret); NESL group 2; ESA endangered  
*Pediocactus peeblesianus* var. *Fickeiseniae* (Fickeisen plains cactus); NESL group 3; ESA candidate  
*Perognathus amplus ammodytes* (Navajo pocket mouse)  
*Phacelia welshii* (Welsh phacelia); NESL group 4  
*Rana pipens* (Northern Leopard frog); NESL group 3  
*Rhinichthys osculus* (speckled dace).  
*Xyrauchen texanus* (Razorback sucker); NESL group 2; ESA endangered

NESL - Navajo Endangered Species List  
MBTA - Migratory Bird Treaty Act

ESA - federal Endangered Species List,  
EPA - Eagle Protection Act

### IV. Survey Methodology

Sources of information for determining which species should be surveyed for at the sites were from the NNHP database, along with species habitat requirements attained from books, reports, and scientific papers.

Survey techniques employed on the project area were to:

- 1) Locate and assess project area,
- 2) write a project area description,
- 3) walk project area,
- 4) take notes on plant and animal species observed in and around the site,



- 5) determine if potential habitat exists for species of concern, and
- 6) conduct species-specific surveys if habitat exists.

After research and general habitat assessments, it was determined unnecessary to survey for the following species:

- American dipper (*Cinclus mexicanus*) – There are no streams within 100 meters of the project sites to provide suitable habitat for American dippers.
- Bald eagle (*Haliaeetus leucocephalus*) – There is no suitable foraging habitat within ½ mile of project sites.
- Black-footed ferret (*Mustela nigripes*) – There were no prairie dog towns large enough within or adjacent to the project sites to provide suitable habitat for black-footed ferrets.
- Bluehead sucker (*Catostomus discobolus*) – There are no rivers/streams within 60 meters of project sites.
- Fickeisen plains cactus (*Pediocactus peeblesianus* var. *fickeiseniae*) – The parent material at these sites is Chinle Formation. Fickeisen plains cactus is normally associated with Kaibab Limestone in this area.
- Flannelmouth sucker (*Catostomus latipinnis*) – There are no rivers/streams within 60 meters of project sites.
- Golden eagle (*Aquila chrysaetos*) – There are no steep cliffs >10 meters in height to provide suitable nesting habitat within 1.0 mile of the project sites.
- Humpback chub (*Gila cypha*) – There are no rivers/streams within 60 meters of project sites.
- Northern leopard frog (*Rana pipiens*) – There are no wetlands within 60 meters of the project sites to provide suitable habitat for northern leopard frogs.
- Peregrine falcon (*Falco peregrinus*) – There are no steep cliffs >30 meters in height to provide suitable nesting habitat within ½ mile of the project sites.
- Razorback sucker (*Xyrauchen texanus*) – There are no rivers/streams within 60 meters of project sites.
- Southwestern willow flycatcher (*Empidonax traillii extimus*) – There is no dense riparian vegetation within ¼ mile of the project sites.
- Speckled dace (*Rhinichthys osculus*) – There are no rivers/streams within 60 meters of project sites.

A complete survey was conducted on July 31, August 1 and August 2, 2000 by Darryl Martinez, Biologist, Navajo AML. All cliffs and pinnacles within 1 mile of project sites were scanned with binoculars and spotting scope for raptor nest or perch areas.

## V. Survey Results

### Project site NA-0112

This site consists of one rimstrip and with approximately 1,025 bank cubic yards (bcyds) of waste material. The area of effect is 2.0 acres. The rimstrip will be backfilled and contoured with the natural terrain. A small borrow area will be designated within the project boundaries (area of effect). The earthwork will be done utilizing an excavator, dump truck, and water truck for dust suppression. Approximately 1.25 miles of access roads may be upgraded by a motorgrader. The access roads that primarily serve to access the mine sites will be eliminated following all reclamation activities.

No threatened or endangered species were found within or adjacent to this site.

### Project sites NA-0114a, NA-0114d, and NA-0116

Site NA-0114a consists of three (3) rimstrips and with approximately 1,320 bcyds of waste material. The area of effect is 2.5 acres. The rimstrips will be backfilled and contoured with the natural terrain. Borrow areas will be designated within the project boundaries (area of effect). The earthwork will be done utilizing an excavator, dump truck, and water truck for dust suppression.

Site NA-0114d consists of two (2) rimstrips and with approximately 760 bcyds of waste material. The area of effect is 3.0 acres. The rimstrips will be backfilled and contoured with the natural terrain. Borrow areas will be designated within the project boundaries (area of effect). The earthwork will be done utilizing an excavator, dump truck, and water truck for dust suppression.

Site NA-0116 consists of five (5) rimstrips and with approximately 4,725 bcyds of waste material. The area of effect is 7.0 acres. The rimstrips will be backfilled and contoured with the natural terrain. Borrow areas will be designated within the project boundaries (area of effect). The earthwork will be done utilizing an excavator, dump truck, and water truck for dust suppression.

Approximately 2.75 miles of roads, that access sites NA-0114a, 0114d, and 0116, may be upgraded by a motorgrader. The access roads that primarily serve to access the mine sites will be eliminated following all reclamation activities. No threatened or endangered species were found within or adjacent to these sites.

### Project sites NA-0158a, NA-0158b, and NA-0159

Site NA-0158a consists of one (1) rimstrip and with approximately 1,450 bcyds of waste material. The area of effect is 9.2 acres. The rimstrip will be backfilled and contoured with the natural terrain. Borrow areas will be designated within the project boundaries (area of effect). The earthwork will be done utilizing an excavator, dump truck, and water truck for dust suppression.

Site NA-0158b consists of one (1) rimstrip and with approximately 1,000 bcyds of waste material. The area of effect is 7.3 acres. The rimstrip will be backfilled and contoured with the natural terrain. Borrow areas will be designated within the project boundaries (area of effect). The earthwork will be done utilizing an excavator, dump truck, and water truck for dust suppression.

Site NA-0159 consists of one (1) rimstrip and with approximately 500 bcyds of waste material. The area of effect is 0.7 acres. The rimstrip will be backfilled and contoured with the natural terrain. Borrow areas will be designated within the project boundaries (area of effect). The earthwork will be done utilizing an excavator, dump truck, and water truck for dust suppression.

Approximately 2.1 miles of roads, that access sites NA-0158a, 0158b, and 0159, may be upgraded by a motorgrader. The access roads that primarily serve to access the mine sites will be eliminated following all reclamation activities. No threatened or endangered species were found within or adjacent to these sites.

#### Project area NA-0164

This site consists of one (1) rimstrip and with approximately 2,800 bcyds of waste material. The area of effect is 8.0 acres. The rimstrip will be backfilled and contoured with the natural terrain. Borrow areas will be designated within the project boundaries (area of effect). The earthwork will be done utilizing an excavator, dump truck, and water truck for dust suppression.

Approximately 0.1 miles of access road may be upgraded by a motorgrader. The access road will be eliminated following all reclamation activities. No threatened or endangered species were found within or adjacent to this site.

The following species of concern were targeted during the surveys of sites and access roads:

#### ***Amsonia peeblesii* (Peebles blue-star).**

This herbaceous perennial with white or light blue, trumpet-shaped flowers has been known to occur from Grey Mountain, east to near Leupp, north to Cedar Ridge, AZ. The Peebles blue-star was not encountered during the survey of the Cameron 6 sites.

#### ***Amsonia tomentosa* var. *stenophylla* (Narrowleaf blue star).**

The Narrowleaf blue star was not encountered during the survey of the Cameron 6 sites.

#### ***Antilocapra americana americana* (Pronghorn)**

Pronghorns were not encountered nor was any sign of this species found during the survey.

#### ***Astragalus sophoroides* (Tuba City milk-vetch)**

This low, loosely tufted perennial with small (5 – 10 mm) reddish lilac flowers has been known to occur between Cameron and The Gap, AZ. It is found on sandy soils and usually associated with dry washes. The Tuba City milk-vetch was not encountered during the survey of the

Cameron 6 sites.

***Buteo Regalis* (Ferruginous Hawk)**

This species prefers to hunt in open country like prairies, plains, and badlands. They inhabit dry, open country with their nests built on trees, hillsides, buttes, cliffs or, as seen most often on the Navajo Nation, on rock spires or pinnacles near badland topography. Ferruginous hawks nest in the Spring from April through July. No ferruginous hawk nests were observed in or near the project sites even though suitable nesting habitat does exist near sites NA-0112, NA-0114a, NA-0114d, and NA-0116.

***Cymopterus megacephalus* (Bighead water parsnip)**

The Bighead water parsnip was not encountered during the survey of the Cameron 6 sites.

***Errazurizia rotundata* (Round dunebroom)**

The Round dunebroom occurs from sandy soils in sandstone, to gravelly soils in calcareous outcrops, to deep, alluvial cinders in sandstone breaks. On the Navajo Nation this species is only known to occur from between Moenave and US Hwy 89. This species was not found during the survey of the Cameron 6 sites.

***Lampropeltis triangulum* (Milk snake)**

Milk snakes have not yet been documented on the Navajo Nation. If this species is encountered, the NNFWD, Natural Heritage Program will be notified.

***Perognathus amplus ammodytes* (Navajo pocket mouse)**

This species is not listed on the NESL or considered a species of concern at this time (Mikesic, personal communication, 2000).

***Phacelia welshii* (Welsh phacelia).**

This species has been known to occur from The Gap to Gray Mountain, AZ. It is distinguished from the common phacelia by having two-colored flowers and having a white floral tube. It can be found in May during a wet year. It is an annual plant (Roth, Personal Communication, 2000). During the survey of the Cameron 6 sites, the Welsh phacelia was not found at or near the project sites or on the proposed access roads.

## **VI. Impact Assessment**

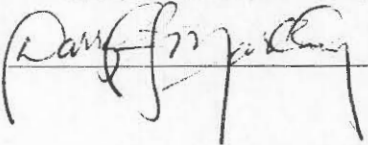
The current vegetation growing within the project area boundaries will either be destroyed or trampled by all the reclamation activities. Navajo AML has decided not to revegetate the project areas "due to the high alkaline and sodic nature of the natural ground." No negative impacts are foreseen to the listed threatened or endangered plant and animal species.

## **VII. Conclusion**

Navajo AML recommends a no effect to the listed threatened or endangered plant and animals species with the reclamation of Project sites NA-0112, 0114a, NA-0114d, NA-0116, NA-0158a, NA-0158b, NA-0159, and NA-0164.

## **VIII. Certification**

I, Darryl Martinez, Biologist, Navajo Abandoned Mine Lands Reclamation Department, am responsible for the content of this report entitled: "Cameron 6 AML Reclamation Project (Project sites: NA-0112, 0114a, NA-0114d, NA-0116, NA-0158a, NA-0158b, NA-0159, and NA-0164)" and duly certify that all information is true.

Signature:  \_\_\_\_\_ Date: 10/10/00

## **IX. Coordination and consultation**

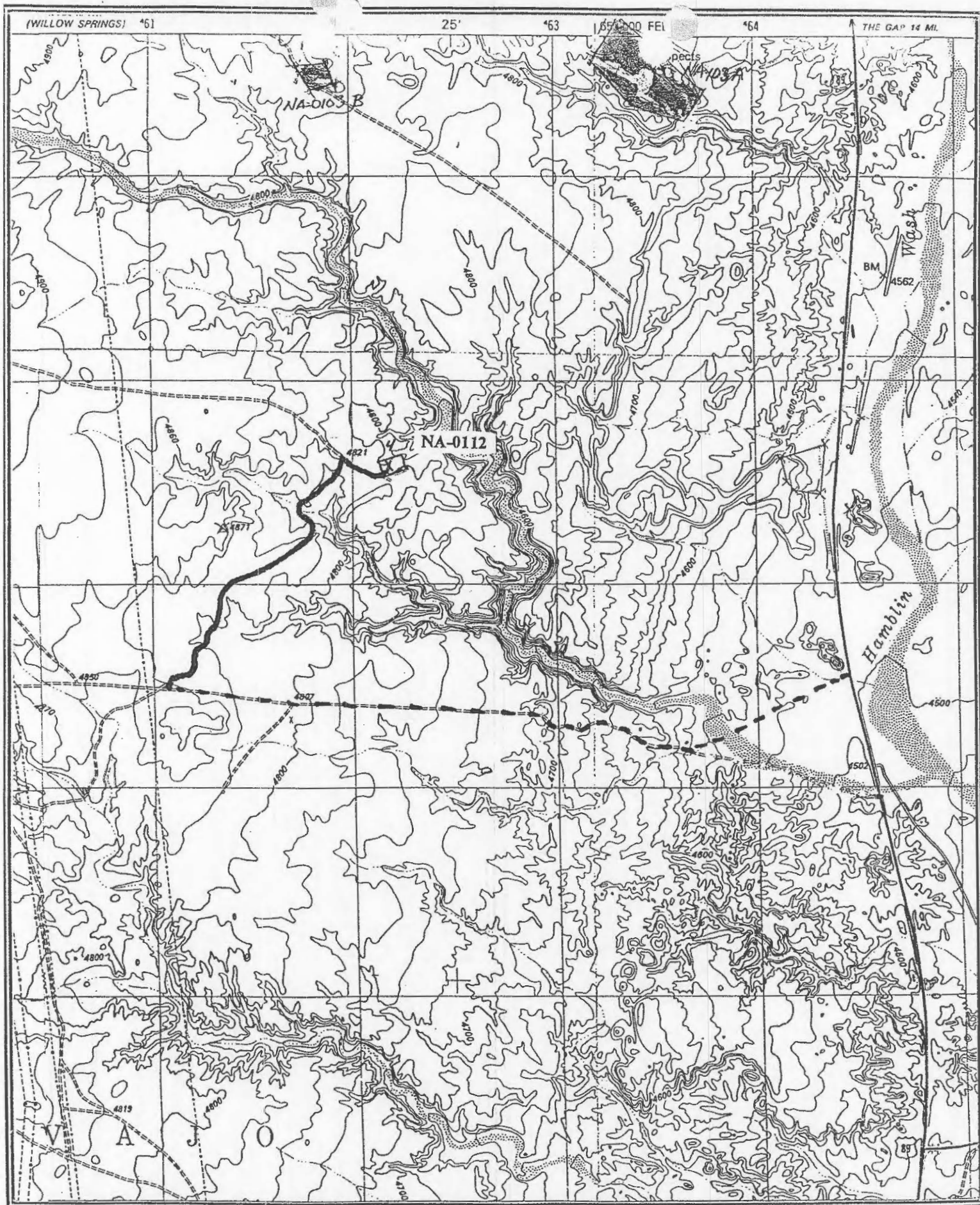
**Melvin Yazzie** -requestor, Cameron 6 AML Reclamation Project, Shiprock AML Field Office, Shiprock, NM.

**Brent Nelson** -Data manager, Navajo Natural Heritage Program, Navajo Fish & Wildlife Department.

**Daniela Roth** - Botanist, Navajo Natural Heritage Program, Navajo Fish & Wildlife Department.

**John Nystedt** -Environmental Reviewer, Navajo Natural Heritage Program, Navajo Fish & Wildlife Department.

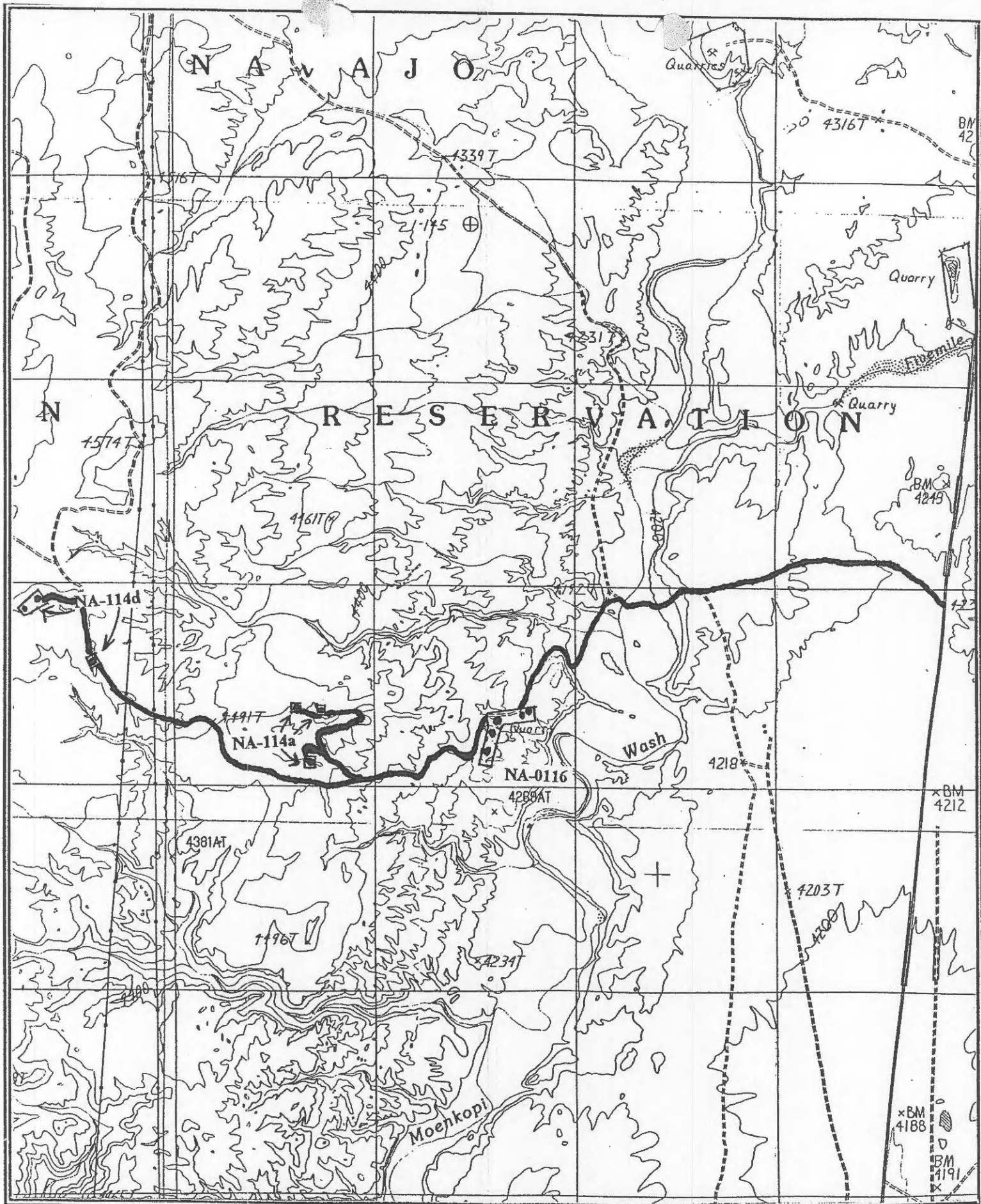




ACCESS AND PROJECT AREA LOCATIONS  
CAMERON 6 AML  
TURA CTV AML PROGRAM

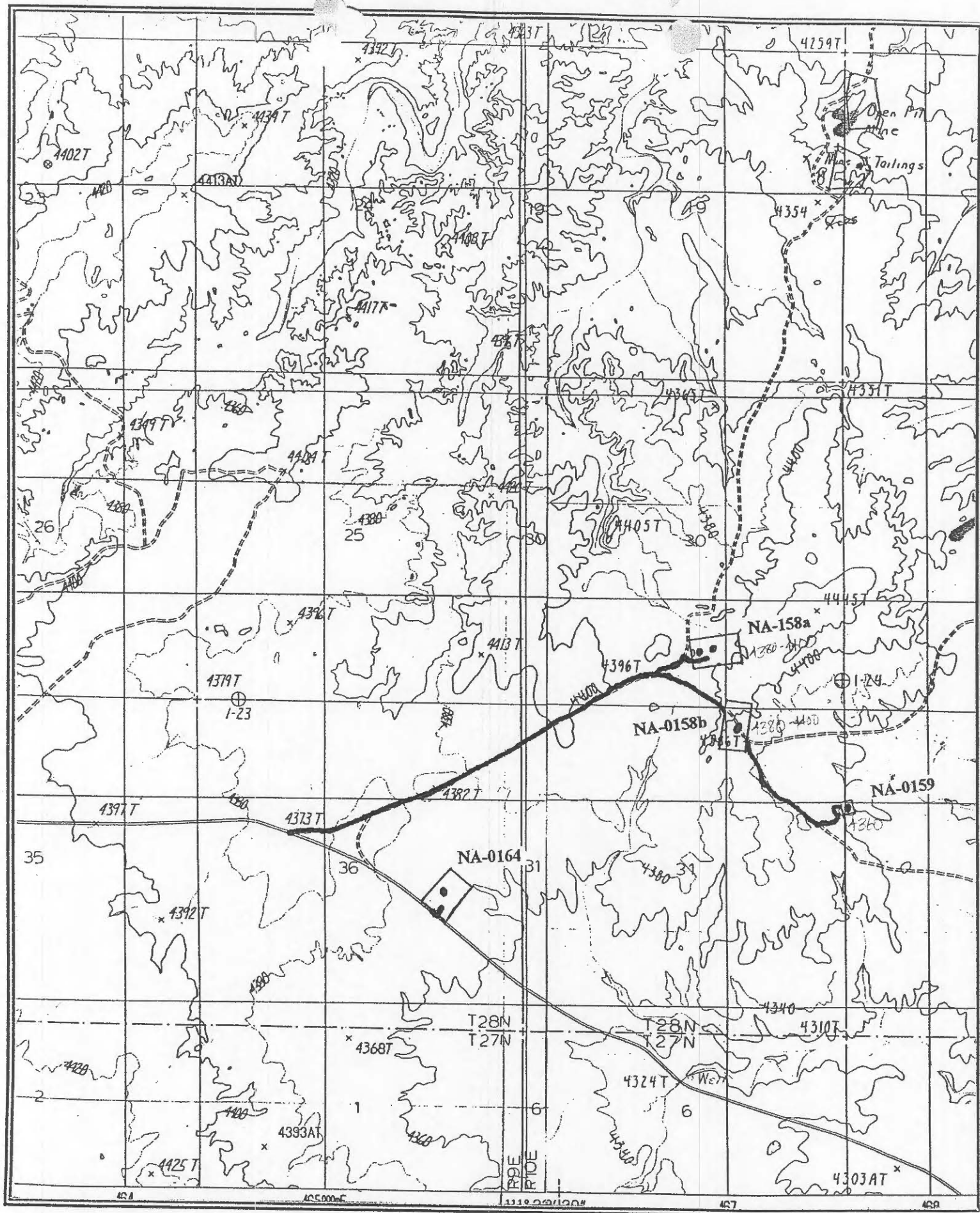
Access Road ——— Upgrade Area ———  
Shadow Mtn. Well  
Arizona - Coconino Co.  
7.5 Miles S. of Tuba City





ACCESS AND PROJECT AREA LOCATIONS  
CAMERON 6 AML  
TUBA CITY AML PROGRAM

Access Road — — — Upgrade Area — — —  
Cameron North  
Arizona - Coconino Co.  
7.5 Minute Series (Topographic)



ACCESS AND PROJECT AREA LOCATIONS  
CAMERON 6 AML  
TUBA CITY AML PROGRAM

Access Road — — — Upgrade Area — — —

Cameron South / Cameron SE

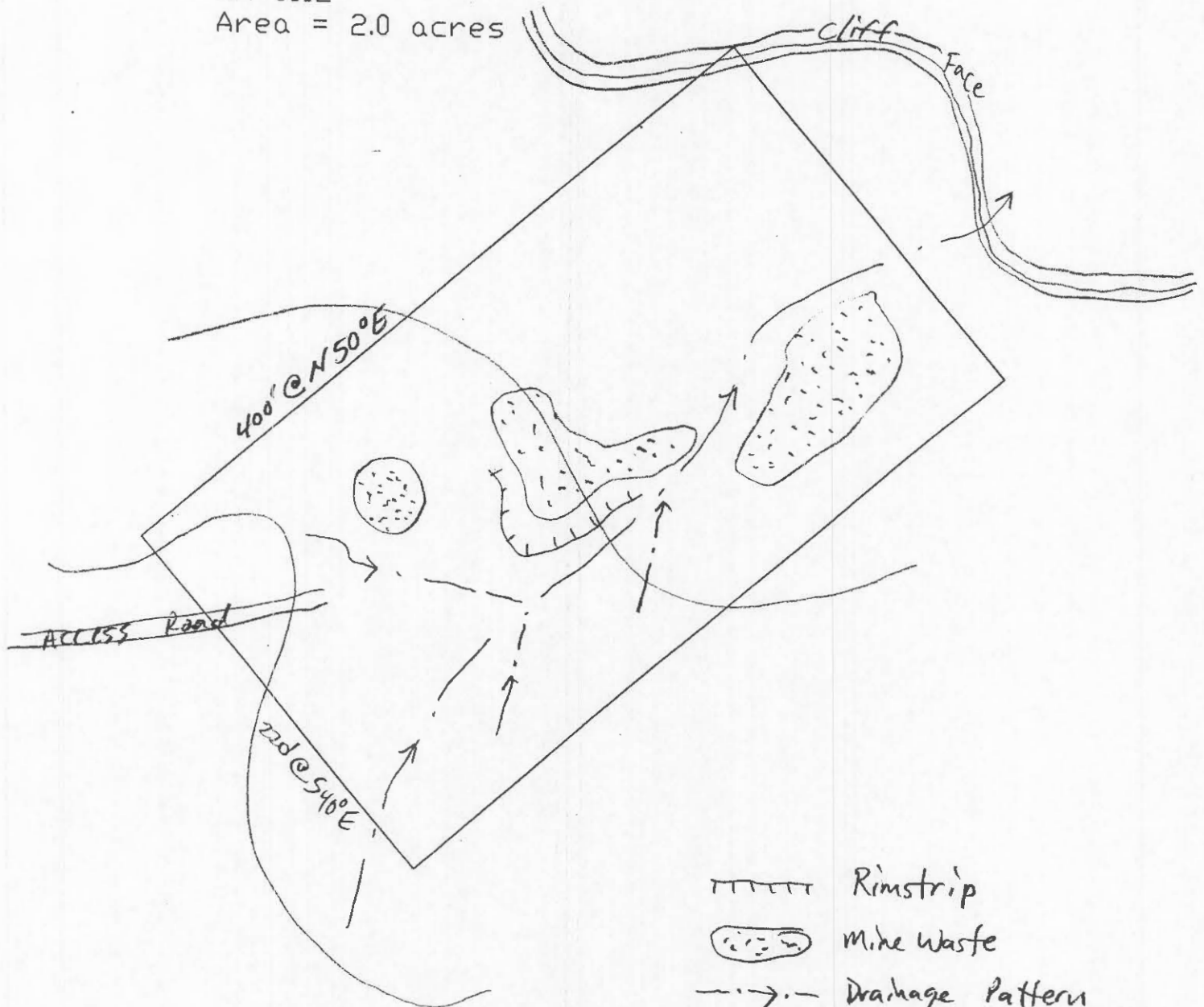
Arizona - Coconino Co.

7.5 Minute Series (Topographic)

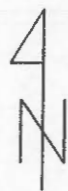
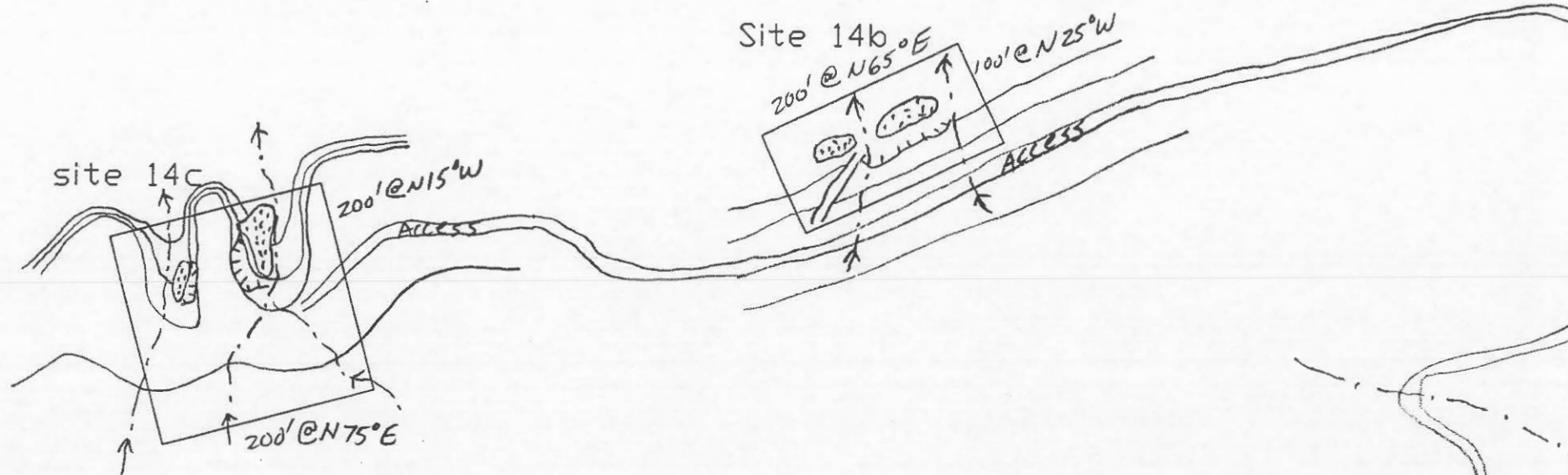
4360-4400




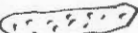



Cameron AML  
NA-0112  
Area = 2.0 acres

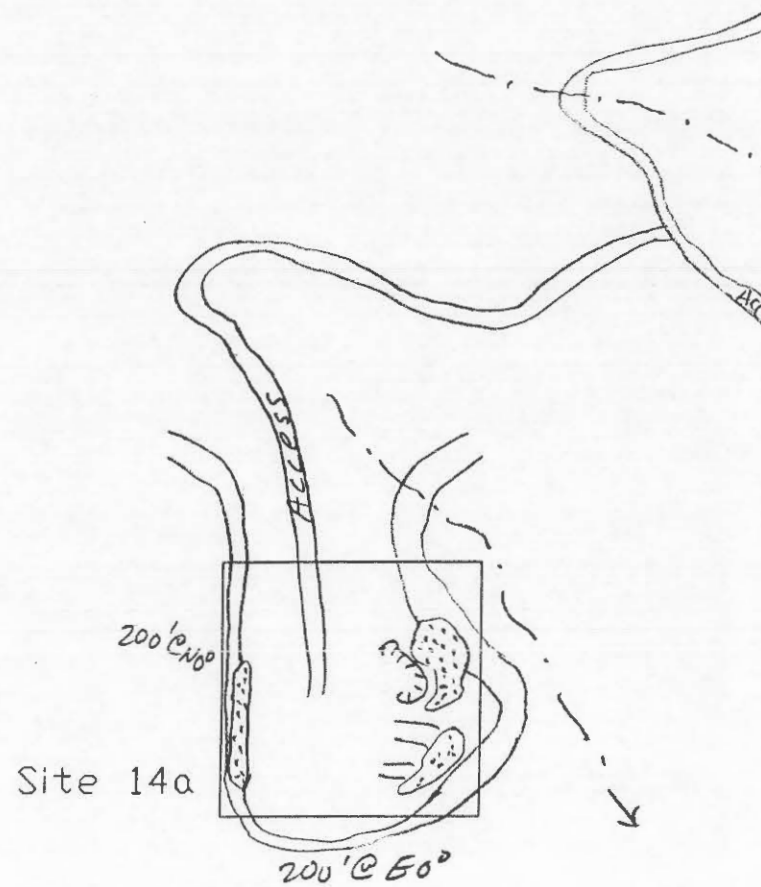


-  Rimstrip
-  Mine Waste
-  Drainage Pattern
-  Access Road
-  Contour
-  Drawing not to scale

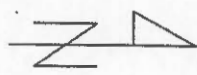
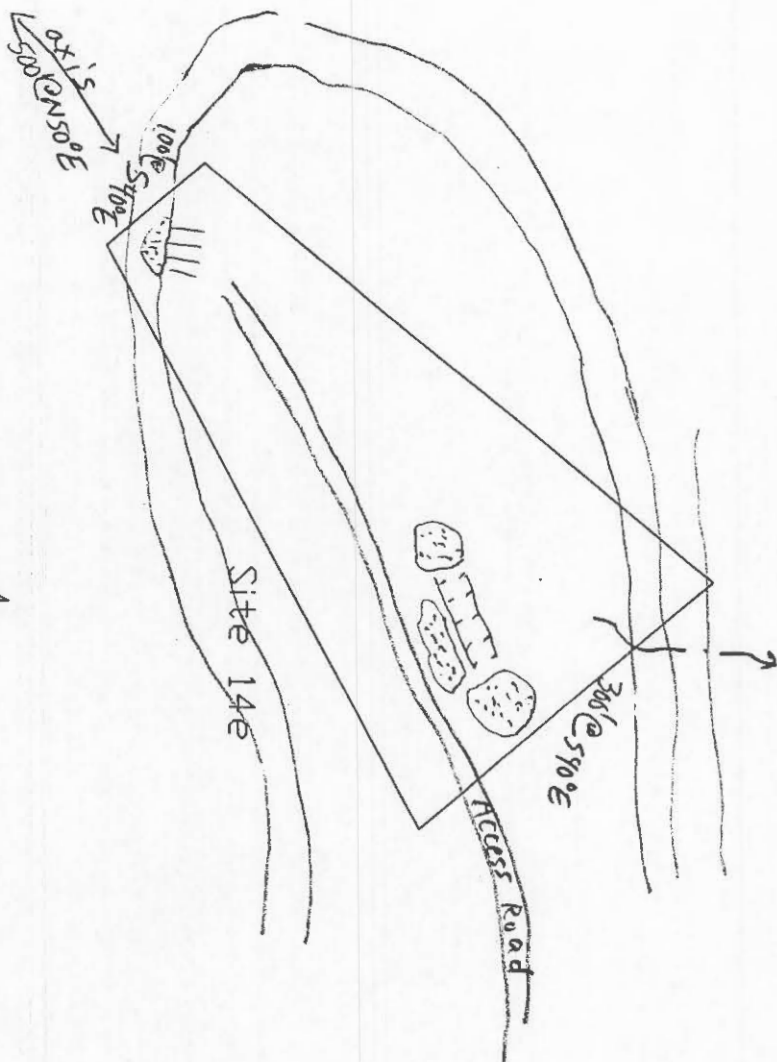


Cameron AML  
NA-0114a  
Area = 2.5 acres






-  Rimstrip
-  Mine waste
-  Drainage Pattern
-  Access Road
-  Contour
- \* Drawing not to scale

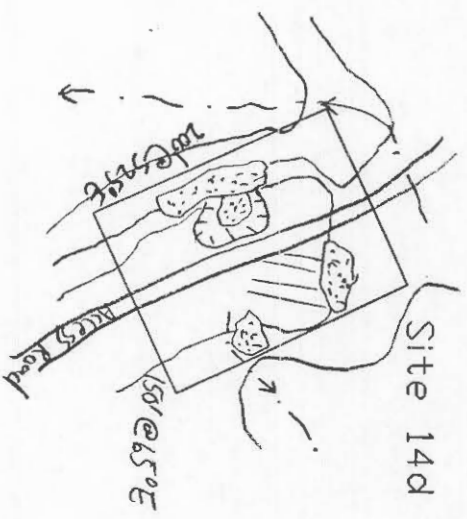






Cameron AML  
NA-0114d  
Area = 3.0 acres

-  Rimstrip
-  White waste
-  Drainage Pattern
-  Access Road
-  Contour
- \* Drawing not to scale





Cameron AML  
NA-0116  
Area = 7.0 acres

200' @ 580°W

150' @ 510°E

Access

800' @ 575°W

200' @ 523°E

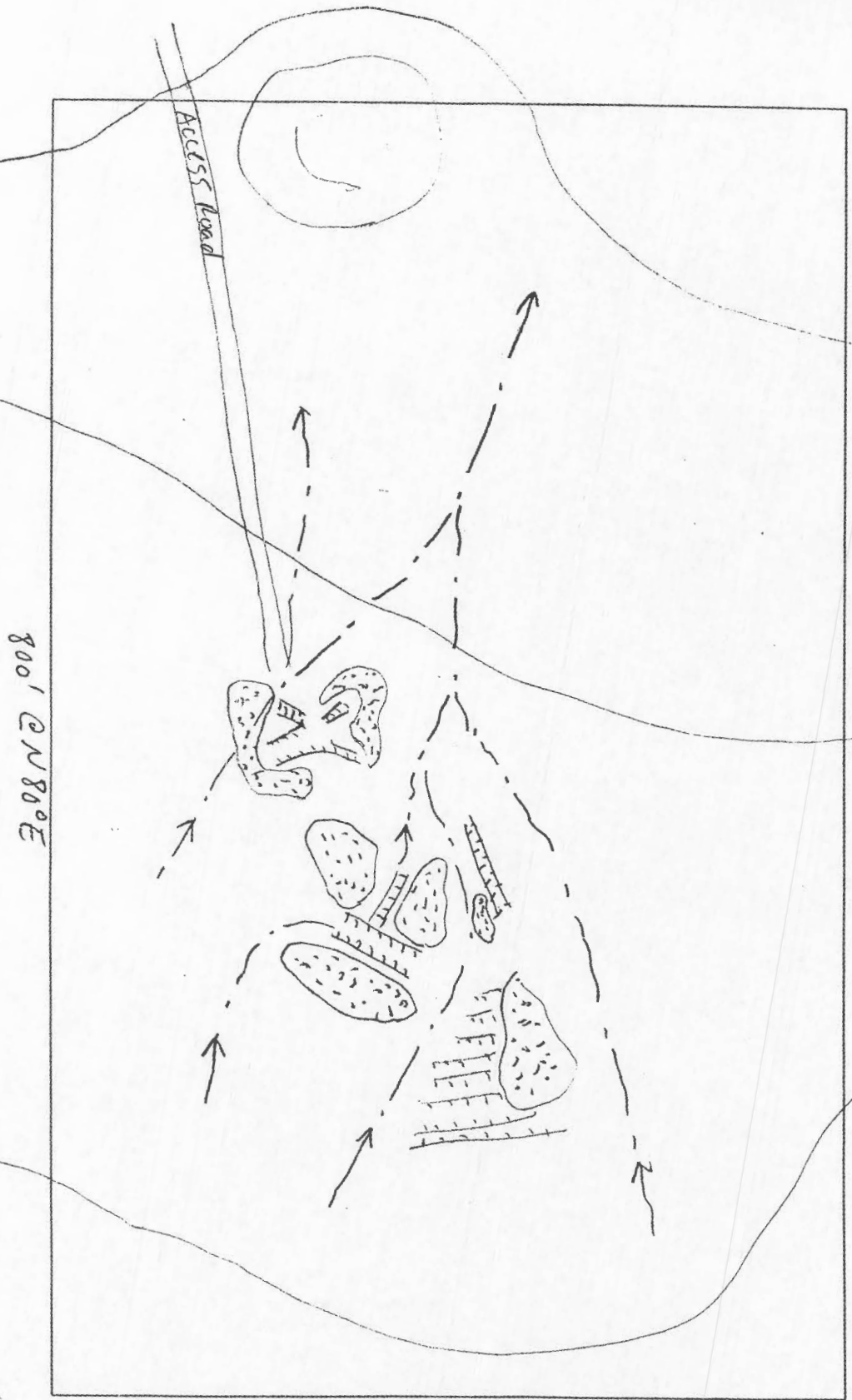
Access

- Rlnstrip
- mine waste
- > Drainage Pattern
- Access Access Road





Cameron AML  
NA-0158a  
Area = 9.2 acres



800' @ N 80° E

500' @ S 10° E


- ▬ Rimstrips
- ⊙ Mine waste
- - - Drainage
- ▬ Access Road
- ~ Contours
- \* Drawing not to scale





Cameron AML


NA-0158b


Area = 7.3 acres

 Rimstrips

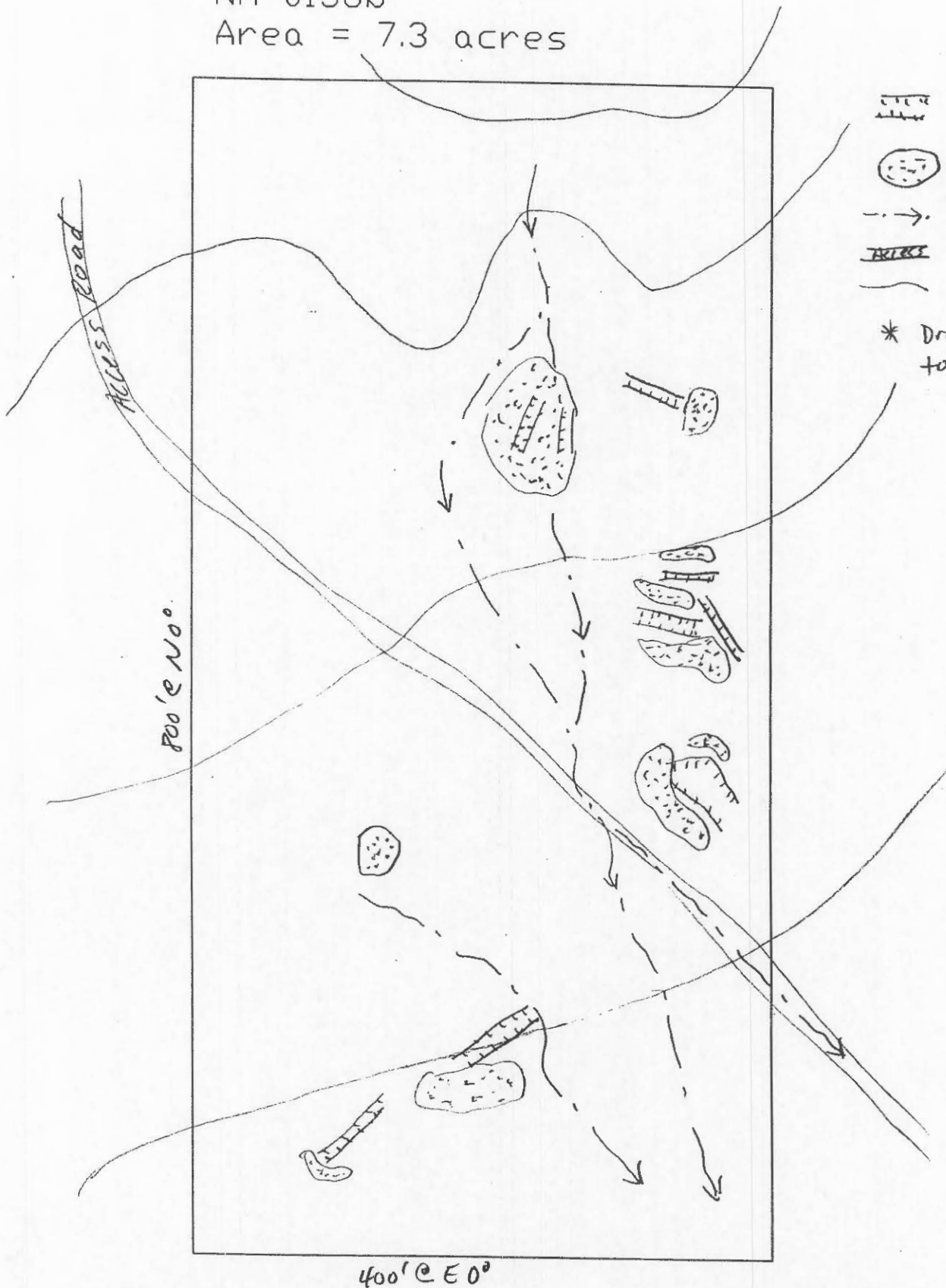
 Mine Waste

 Drainage

 Access Roads

 Contours

\* Drawing not to scale



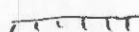





400' @ E 0°

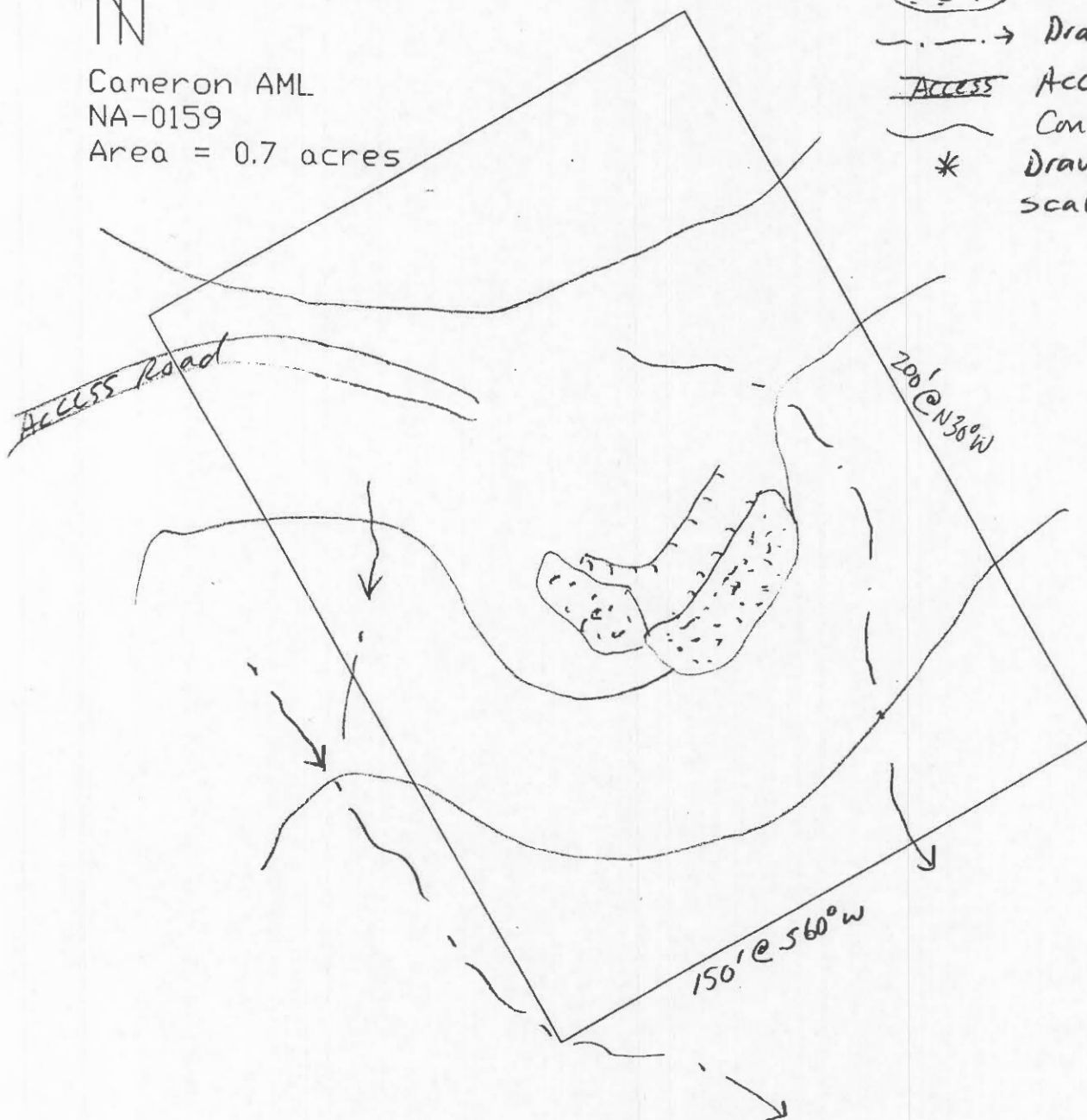


Cameron AML

NA-0159

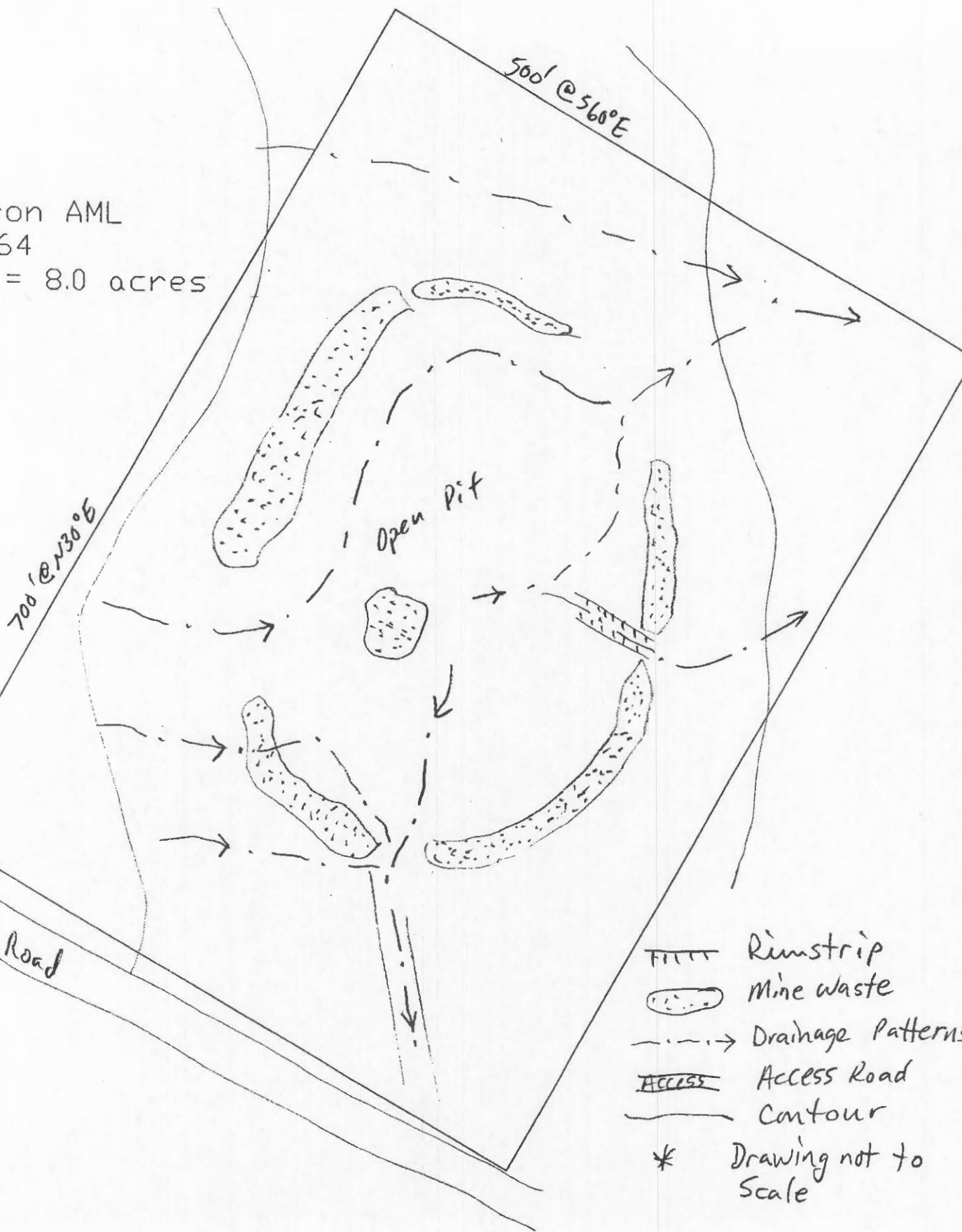
Area = 0.7 acres

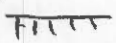

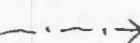
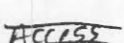

-  Rimstrip
-  Mine Waste
-  Drainage Pattern
-  Access Road
-  Contours
-  \* Drawing not to scale





Cameron AML  
NA-0164  
Area = 8.0 acres



-  Rimstrip
-  Mine waste
-  Drainage Patterns
-  Access Road
-  Contour
- \* Drawing not to Scale